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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/535,226	03/24/2000	Mandy Mei-Feng Tsai	TI-29058	2779

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EXAMINER

SCHNEIDER, JOSHUA D

ART UNIT PAPER NUMBER

2182

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/535,226	<b>Applicant(s)</b> TSAI, MANDY MEI-FENG	
	<b>Examiner</b> Joshua D. Schneider	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                         |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see After Final, filed 1/23/2006, with respect to the rejection(s) of claim(s) 1-4 and 11-12 under 35 U.S.C. 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 5,809,521 to Steinmetz et al.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,463,443 to Frankel et al. in further view of U.S. Patent 5,809,521 to Steinmetz et al.

4. With regards to claims 1 and 11, Frankel teaches a first buffer connected to a first component operating at a first clock rate (Fig. 1, element 10, column 1, lines 61-65), a second buffer connected to a second component operating at a second clock rate (Fig. 1, element 14, column 2, lines 1-5), and a copy/access controller for copying data from the first buffer to the second buffer when the first buffer is substantially full (Fig. 1, elements 16, 16a, 18, 20, and 22, column 1, lines 65-68, column 4, lines 34-46, and column 5, lines 53-58). Frankel fails to explicitly teach the prompting of a second component to access the second buffer when the data is copied from the first buffer. However, it was notoriously well known in the art at the time of

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invention to use signal to prompt buffer connected devices to read and write data to and from the buffer. Steinmetz teaches that it was well known at the time of invention to use signals to a prompt output to a second component when a data buffer is substantially full (Figs. 1b, element 16, nEMPTY signal, column 3, line 40, through column 4, line 5). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the data buffer is substantially full signal of Steinmetz with the buffering control of Frankel to enable signaling of a second device when to read data form the buffer.

5. With regards to claims 2 and 13, the Frankel teaches that random access memories were well known in the art (Fig. 2A). It is inherent that shift registers are by definition also RAM memories.

6. With regards to claims 3 and 12, Frankel teaches that shift registers were well known in the art (Figs. 2A and 2B).

7. With regards to claims 4 and 14, the advantages of integrating circuits onto a single semiconductor are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of invention that the circuit could have been integrated onto a single semiconductor with either the first or second component in order to decrease spatial requirements and the number of wiring connections.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,982,772 to Oskouy teaches the use of almost full, full, empty, and almost empty signals between sending and receiving devices with different clock speeds.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Schneider whose telephone number is (571) 272-4158. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDS



**KIM HUYNH**  
**SUPERVISORY PATENT EXAMINER**  
2/8/06